



V200

LED Light Curing Device

OPERATION MANUAL

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1. Introduction

1.1 Preface
Guilin Veirun Medical Technology Co.,Ltd. is the professional dental equipment manufacturer, which has strong self-developing ability and completely quality control system.

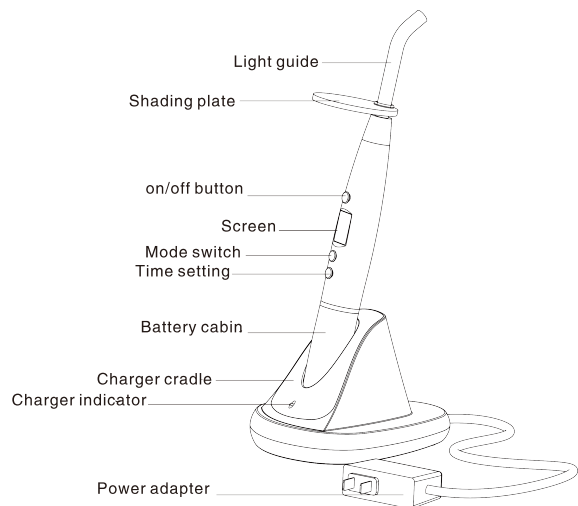
1.2 Principles of operation
The device illuminates photosensitive resin to solidify it quickly based on the principle of light radiation.

1.3 Intended use
The device is intended to be used on a variety of dental compositions within the oral cavity.

1.4 Feature
• Constant light intensity, the solidification effect is not affected by the consumption of remaining power.
• Super capacity battery.A full charge can be used for more than 500 times continuously under 10s working mode.
• Ergonomics design,excellent and comfortable handle feel during the treatment.
• Auto power-off.

1.5 Structure and Components
LED Light Curing Device consists of main unit, charger cradle, battery, light guide, shading plate and power adapter.

2. Structure and components



3. Technical specifications

Dimensions: 220 mm × 170 mm × 100 mm

Net weight: 390 g

Configurations: see the packing list for details.

Power supply:

- Power supply classification:
Power supply by rechargeable lithium battery.
- Rechargeable lithium battery:

Standard voltage: DC3.7 V, capacity: 2200 mAh, with protection for overvoltage, overcurrent and short-circuits.

Power Adapter:

Input: 100V-240V~, 50/60 Hz, 10VA

Output : 5V= 1A.

Fuse: T1AL 250 V.

Characteristics of LED lamp:

5 W high-power blue LED lamp.

Lamp classification group: Risk Group 2.

Wavelength: 400 nm~515 nm.

Accessible emission limit(AEL): $3.9 \times 10^{-3} \text{J}$

Inspection method: When the LED lamp emits during normal operation, the lamp is in good condition.

Radiation during continuous working: $\geq 400 \text{ mW/cm}^2$.

Optical effective area of light source: 50 mm^2 .

It is applicable to some common dental resinous materials in clinic, such as 3 M, Dentsply etc.

Working environment:

Temperature: 5 °C~40°C.

Relative humidity: $\leq 80\%$.

Atmospheric temperature: 75 kPa~106 kPa.

Equipment Safety classification:

Operation mode: Short-time operation equipment.

Type of protection against electric shock:

Class II equipment.

Degree of protection against electric shock:

Type B applied part.

Degree of protection against ingress of water:

Ordinary equipment(IPX0).

Degree of safety of application in the presence of a Flammable Anesthetic Mixture with air, Oxygen or Nitrous Oxide: Non-AP, APG type equipment.

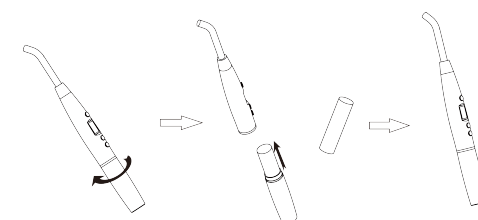
4. Installation and disassembly

4.1 Take off the red cap from light guide and insert the metal part into the front of the main unit (Make sure to screw the light guide to the end).

4.2 Install the shading plate on the bottom of the light guide .

4.3 Disassembly the light guide in the opposite direction according to the procedure above.

4.4 Battery replacement: holding the front of the main unit and the battery compartment, screw it off counterclockwise, then remove the old battery from the battery,change a New battery,and then replace the battery storehouse on the host. The battery positive and negative can benormal used,no security risks. As shown in figure:



5.Operation

5.1 Choose one of three operation modes by pressing the mode switch button on the curing light.

- Full power; The screen shows 01,the blue light radiates in full power.(recommending mode for clinical)
- Progressive: The screen shows 02, the blue light power increase stronger continually,after 5 seconds reaches to the highest power.
- Pulse: The screen shows 03,the blue light works on the pulse condition.

5.2 Press the "T" time set button to choose from 3.5, 10, 15, 20.25.30.35.40seconds for working time.

5.3 During the operation,aim blue light at the position needing solidification.There is a "Di" sound and the LED starts working.Then it counts down to "0"toend the solidification.

5.4 Press on/off button to stop during the operation.

5.5 When the shooting period is done,press the "p" on/off button again for next shooting period.If the device becomes hot, the user should stop using the device and wait till the device cooling down.Recommending shooting period is not over 10 times.

5.6 Low battery alert: This device contains the low battery checking function.When the battery is low of power,the screen will blink.

5.7 The battery has no memory and can be recharged at any time.Plug the power adaptor into theAC 100V~240V power supply, then connect the output plug of the adaptorto the input plug of the charge dock signed as DC 5.0V.The charging indicate turns green,which shows the stand by status.Then put the curing light into the charge dockfor power charging,and the charge indicate turns red for charging.When the charging is finished,itturns green.

5.8 The device will be automatically power off after 1 minutes in idle,and press any button to start.

5.9 The solidification effect for composite resin is not less than 4mm in 10 seconds.

5.10 Opict Intensity Adjusting Function Press button"M"to select the mode"04", then press button"T" to enter the adjusting mode, then switch mode"P1", "P2" or"P3"by pressing button"T".

P1→100% light intensity output;

P2→75% light intensity output;
P3→50% light intensity output.

After choose one light intensity, press button"Mto confirm, then the curing light works on that light intensity.

Example:
Make the light intensity at 50% of Max.

1.Press button"M"to select the mode"04", then press button "T";

2. Press button"T"to switch to "P3";

3. Press button "M"to confirm.

Then the curing light is working on 50% of Max of light intensity.

6. Precaution

- 6.1 For the first time using,please charge the device for at least 4 hours.
- 6.2 The shading plate is fragile glass,and knock,impact and crash are forbidden.
- 6.3 During the operation,the light should be aimed straightly on the resin,to ensure solidification effectively.
- 6.4 Make sure install the original manufacturer light hood correctly in order to avoid the harm of blue light to the eyes. It is forbidden to aiming light at eyes directly.
- 6.5 Please use the original manufacturer power adapter.

The other power adaptor may cause the damage to the battery or circuit of the device.

6.6 It is forbidden that plug any metal or other conductor into the bottom of the device in order to avoid the damage to the battery or internal circuit of the device.

6.7 Please charge the device at dry and ventilated place.

6.8 It is forbidden to take the battery apart.

6.9 It is forbidden to impact and shake the battery. Do not short the battery,and do not place the battery with any metal item together.

6.10 Take off the battery from the device when do not use the device for long time.

7. Contraindications and applicable groups

It is forbidden to use this device for the patient has biological response.

The heart disease patients, pregnant women and children should be cautious to use this device.The patients with a cardiac pace maker or a defibrillator should not be treated with this product.

Applicable to all groups except contraindications.

8.Maintenance

8.1 Please contact the local dealers or distributors for the

repair of this device.

8.2 User could replace the original manufacturer light hood, fiber hood and battery.Please contact the local dealers or distributors for replaceable parts.

8.3 Only the shading plate can be autoclaved under high temperature of 134℃,and pressure of 0.22MPa. Therest of parts could be cleaned or disinfected by clean water or disinfectant.Do not soak the device.Do not use volatile and diffluent detergent to clean the device.

8.4In order to make sure the performance,clean the shading plate if there is any resin left on it after the treatment.

9 Trouble shooting

Faulty	Possible cause	Solution
Non-indication Non-act	- Continuous use for a long time and then heat protection circuit working - Power cable not connected or power off. - Device damaged.	- Stop using the device for few minuets,then it could be back to normal. - Check the power connection between device and power. - Contact the local dealer or VRN.
Screen shows "Er"	Device malfunction	Send it back to dealer or VRN

Light intensity insufficient	- Shading plate isn't inserted well to the bottom. - The optical fiber has cracked. - There is resin remain on the surface of the shading plate.	- Install the shading plate well. - Change the shading plate. - Remove the resin.
The device is not charging when the adapter is connected.	- The adapter is not connected well. - Faulty of adapter or incompatible. - The charging point is impurity.	- Reconnect. - Change the adapter. - Cleaned by the alcohol.

If all the above solutions have been completed,the device still can not work normally,then please contact the local dealer or Guilin Veirun Medical Technology Co.,Ltd..

10 Storage and transportation

- 10.1 The product should be handled carefully and lightly. Be sure that it is far from the vibration, and installed or kept in a cool, dry and ventilated place..
- 10.2 Do not store the product together with the combustible, poisonous , caustic or explosive goods.
- 10.3 The product shall be stored at the location as follow:

- ① Relative humidity: ≤90 %,
- ② Atmospheric pressure: 75 kPa~106 kPa
- ③ Temperature: -20 ℃~55 ℃.

10.4 During transportation, excessive shock and vibration shall be prevented, and handled carefully and lightly. Keep it away from sunlight, snow or rain. It shall not be packed with dangerous goods.

11After servc

Please contact the local dealer or agent for the after service details.

12 Environmental protection

There is not any harmful element in this device. It can be disposed according to the local laws.

13 Statement

We reserve the rights to change the design of the equipment, the technique,fittings, the instruction manual and the content of the original packing list at any time without notice.If there are some differences between blueprint and actualequipment,

take the actual equipment as the norm.

14 Accessories list

No.	Attachment Name	Pcs
1	Shading plate	1
2	Light guide	1
3	Charger cradle	1
4	Power adapter	1
5	Rechargeable lithium battery	1

NOTE: The exactly specifications of accessories are not been shown detailedly in this operation instrument. See the attached page and packing list for more information.

15 SymbolDescription

 Manufacturer's logo	 Type B applied part
 Refer to instruction manual/ booklet	 Manufacturer
 Serial number	 Do not dispose of the product into the ordinary municipal waste or garbage system
 Caution,consult accompanying documents	 Atmospheric pressure limitation
 Fragile,handle with care	 Rotating plug

 Humidity limitation	 Temperature limitation
 This way up	 CE marking
 Keep away from rain	 CLASS II equipment
 Full power mode	 Progressive Mode
 Pulse mode	 Dimming mode
 Authorised Representative in the European Community	 Date of manufacture
 Use by date	 Environment-friendly use period
 Medical Device	 Unique device identifier

The LED Light Curing Device has passed tests according IEC60601-1-2,but it is no guarantee of immunity from electromagnetic interference.Avoid using The LED Light Curing Device in high electromagnetic environment.